INDIANA PROJECT WET

State Science Standards Correlation to Activities

Please use the following correlations of the Project WET activities to the Indiana State Science Standards for your planning needs.

Project WET provides workshops throughout the state, and they can Be designed to meet your grade level or group needs.

Correlations will be available on line at:

projectwet.in.gov

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FIFTH GRADE

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Project WET Activities correlated to the Indiana State Science Standards

Page	Project WET Activity
3	***Check It Out!*** Explore a variety of performance assessment strategies
7	***Idea Pools*** Become familiar with pre-assessment strategies
9	***Let's Work Together*** Use cooperative learning strategies
12	***Water Action*** Propose, analyze, and implement action strategies
19	***Water Log*** Assess student learning through a journal of portfolio
25	***Adventures in Density*** Experiment with density and explore examples of density in classic literature
30	***H_2Olympics*** Compete in a water Olympics to investigate adhesion and cohesion
35	***Hangin' Together*** Mimic hydrogen bonding in surface tension, ice formation, evaporation, ad solutions
43	**Is *There Water on Zork?*** Test the properties of water
47	***Molecule in Motion*** Simulate molecular movement in water's three states
50	***Water Match*** Match water picture cards and discover the three states of water
54	***What's the Solution*** Solve a crime while investigating the dissolving power of water
63	***Aqua Bodies*** Estimate the amount of water in a person, a cactus, or a whale
66	***Aqua Notes*** Sing to discover how the human body uses water
72	***Let's Even Things Out*** Demonstrate osmosis and diffusion
76	***Life Box (The)*** Discover the elements essential to life
79	***Life in the Fast Lane*** Explore Temporary wetlands
85	***No Bellyachers*** Show how pathogens are transmitted by water by playing a game of tag
89	***People of the Bog*** Construct a classroom bog
93	***Poison Pump*** Solve a mystery about a waterborne disease
99	***Salt Marsh Players*** Role-play organisms adapted to life in a salt marsh
107	***Super Sleuths*** Search for others who share similar symptoms of a waterborne disease
116	***Thirsty Plants*** Demonstrate transpiration and conduct a field study
122	***Water Address*** Analyze clues to match organisms with water-related adaptations
129	***Branching Out!*** Construct a watershed model
133	***Capture, Store, and Release*** Use a household sponge to demonstrate how wetlands get wet and how they contribute to a watershed
136	***Get the Ground Water Picture*** Create an "earth window" to investigate ground water systems
144	***Geyser Guts*** Demonstrate the workings of a geyser
150	***Great Stony book (The)*** Create layers of buried fossils and read a great stony book
155	***House of Seasons (A)*** Create a collage that peeks through a "window" to reveal the role of water in each season
157	***Imagine!*** Imagine a water molecule on its water journey
161	***Incredible Journey (The)*** Simulate the movement of water through Earth's systems
166	**Just Passing Through** Mimic the movement of water down a slope

Page	Project WET Activity
171	***Old Water*** Create a mural that relates events to the age of Earth, water, and life
174	***Piece It Together*** Explore global climates and their influence on lifestyles
182	***Poetic Precipitation*** Simulate cloud formation and express feelings toward precipitation through poetry
186	***Rainy -Day Hike*** Explore schoolyard topography and its effect on the watershed
191	***Stream Sense*** Develop sensory awareness of a stream
196	***Thunderstorm (The)*** Simulate the sounds of thunderstorm and create precipitation maps
201	***Water Models*** Construct models of the water cycle and adapt them for different biomes
206	***Wet Vacation*** Plot data to determine weather patterns and design appealing travel brochures
212	***Wetland Soils in Living Color*** Classify soil types using a simple color key
219	***A-maze-ing Water*** Negotiate a maze to investigate nonpoint source pollution
223	***Color Me a Watershed*** Interpret maps to analyze changes in a watershed
232	***Common Water*** Demonstrate that water is a shared resource
238	***Drop in the Bucket (A)*** Calculate the availability of fresh water on Earth
242	***Energetic Water*** Design devices to make water do work
246	***Great Water Journeys*** Use clues to track great water journey of plants, people, and other animals on a map
254	***Irrigation Interpretation*** Model different irrigation systems
260	***Long Haul (The)*** Haul water to appreciate the amount of water used daily
262	***Nature Rules!*** Write news stories based on natural, water-related disasters
267	***Sum of the Parts*** Demonstrate nonpoint source pollution
271	***Water Meter*** Construct a water meter and keep track of personal water use
274	***Water Works*** Create a web of water users
279	***Where Are the Frogs*** Run a simulation and experiment to understand the effects of acid rain
289	***AfterMath*** Assess economic effects of water-related disasters
293	**Back to the Future** Analyze streamflow data to predict floods and water shortages
300	***CEO (The)*** Become a Chief executive Officer (CEO) and learn about business/corporate water management challenges
303	***Dust Bowls and Failed Levees*** Witness, through literature, the effects of drought and flood on human populations
307	***Every Drop Counts*** Identify and implement water conservation habits
311	***Grave Mistake (A)*** Analyze data to solve a ground water mystery
316	***Humpty Dumpty*** Simulate a restoration project by putting the pieces of an ecosystem back together
322	***Macroinvertebrate Mayhem*** Illustrate, through a game of tag, how macroinvertebrate populations indicate water quality
328	***Money Down the Drain*** Observe and calculate water waste from a dripping faucet
333	***Price is Right (The)*** Analyze costs for building a water development project
338	***Pucker Effect (The)*** Simulate ground water testing to discover the source of contamination
344	***Reaching Your Limits*** "Limbo" to learn basic water quality concepts and standards development
348	***Sparkling Water*** Develop strategies to clean wastewater

Page	Project WET Activity
353	***Super Bowl Surge*** Develop a strategy to accommodate the demands on a wastewater treatment plant
360	***Wet-Work Shuffle*** Sequence the water careers involved in getting water to and from the home
367	***Choices and Preferences, Water Index*** Develop a “water index” to rank water uses
373	***Cold Cash in the Icebox*** Create a mini-insulator to prevent an ice cube from melting
377	***Dilemma Derby*** Examine differing values in resolving water resource management dilemmas
382	***Easy Street*** Compare quantities of water used in the late 1800s to the present
388	***Hot Water*** Debate water issues
392	***Pass the Jug*** Simulate water rights policies with a "jug" of water
397	***Perspectives*** Identify values to solve water management issues
400	***Water: Read All About It!*** Develop a Special Edition on water
403	***Water Bill of Rights*** Create a document to guarantee the right to clean and sustainable water resources
407	***Water Concentration*** Play concentration and discover how water use practices evolve
413	***Water Court*** Participate in a mock court to settle water quality and quantity disputes
421	***Water Crossings*** Simulate a water crossing and relate the historical significance of waterways
425	***What's Happening?*** Conduct a community water use survey
429	***Whose Problem Is It?*** Analyze the scope and duration of water issues to determine personal and global significance
435	***Raining Cats and Dogs*** Discover how water proverbs vary among culture and climates
442	***Rainstick (The)*** Build an instrument that imitates the sound of rain
446	***Water Celebration*** Organize a water celebration with activities from this guide
450	***wAteR in motion*** Create artwork that simulates the movement and sound of water in nature
454	***Water Message in Stone*** Replicate ancient rock art, creating symbols of water
457	***Water Write*** Explore feelings about and perception of water topics through writing exercises
460	***Wish Book*** Compare recreational uses of water in the late 1800s and the present

Fifth Grade

	The Nature of Science and Technology	Scientific Thinking	The Physical Setting	The Living Environment	The Mathematical World	Common Themes
ACTIVITY						
Adventures in Density (25)		5.2.4 5.2.7 5.2.8	5.3.4 5.3.8 5.3.12			5.6.2
After Math (289)	5.1.2				5.5.7	5.6.2
A-maze-ing Water (219)	5.1.6					
Aqua Bodies (63)				5.4.2	5.5.1	
Aqua Notes (66)			5.3.4 5.3.8, 5.3.9	5.4.2		
Back to the Future (293)	5.1.3 5.1.4	5.2.1 5.2.2, 5.2.5			5.5.1 5.5.7, 5.5.8	5.6.2 5.6.4
Capture, Store, & Release (133)	5.1.3 5.1.6	5.2.4			5.5.1 5.5.7	
Cold Cash in the Icebox (373)	5.1.1 5.1.5	5.2.4	5.3.4, 5.3.8 5.3.9 5.3.10		5.5.1	5.6.4
Common Water (232)	5.1.6	5.2.8				5.6.1
A Drop in the Bucket (238)		5.2.1 5.2.2		5.4.2 5.4.4		5.6.2
Easy Street (382)	5.1.3 5.1.5	5.2.4 5.2.8		5.4.2		5.6.2
Energetic Water (242)	5.1.1 5.1.3	5.2.3	5.3.6 5.3.11 5.3.13			
Geyser Guts (144)	5.1.1, 5.1.3 5.1.6		5.3.4, 5.3.8 5.3.9		5.5.8	5.6.1 5.6.2, 5.6.4
H20 Olympics (30)	5.1.1	5.2.2, 5.2.3 5.2.4, 5.2.7 5.2.8	5.3.6 5.3.13		5.5.1	
Every Drop Counts (307)		5.2.1, 5.2.2 5.2.3 5.2.4			5.5.1	5.6.2
Hangin' Together (35)		5.2.7	5.3.4 5.3.8			
Humpty Dumpty (316)	5.1.6	5.2.4		5.4.5		5.6.1 5.6.4
Imagine! (157)		5.2.4	5.3.6 5.3.8			5.6.1
				5.4.2		5.6.1

	The Nature of Science and Technology	Scientific Thinking	The Physical Setting	The Living Environment	The Mathematical World	Common Themes
ACTIVITY						
The Incredible Journey (161)		5.2.4	5.3.4 5.3.5 5.3.6 5.5.8	The Incredible Journey (161)		5.2.4
Irrigation Interpretation (254)	5.1.5	5.2.3				
Is there Water on Zork? (43)		5.2.6 5.2.7	5.3.4 5.3.8			
Just Passing Through (166)				5.4.5		5.6.4
Let's Even Things Out (72)	5.1.4					5.6.2
The Life Box (76)				5.4.2		
Life in the Fast Lane (79)		5.2.4			5.5.1	5.6.4
The Long Haul (260)	5.1.3					
Macro-invertebrate (322)	5.1.3 5.1.6			5.4.2 5.4.5		
Molecules in Motion (47)		5.2.4	5.3.4 5.3.8			
Money Down the Drain (328)		5.2.1 5.2.2 5.2.5, 5.2.7			5.5.1	5.6.1
No Bellyachers (85)	5.1.3			5.4.6		
Old Water (171)		5.2.2				5.6.2 5.6.4
Pass the Jug (392)			5.3.4 5.3.8			
Piece It Together (174)				5.4.4		
Poetic Precipitation (182)	5.1.3	5.2.4	5.3.4 5.3.5 5.3.8		5.3.1	5.6.4
Poison Pump (93)	5.1.3					
The Rainstick (442)		5.2.3				
Rainy-Day Hike (186)	5.1.3 5.1.6	5.2.1 5.2.2, 5.2.4		5.4.2	5.5.1 5.5.7, 5.5.8	5.6.2
Reaching Your Limits (344)	5.1.3 5.1.4 5.1.5, 5.1.6	5.2.1 5.2.2		5.4.2 5.4.5		
Salt Marsh Players (99)			5.3.6 5.3.11 5.3.13	5.4.2 5.4.4 5.4.5, 5.4.7		5.6.1 5.6.4

	The Nature of Science and Technology	Scientific Thinking	The Physical Setting	The Living Environment	The Mathematical World	Common Themes
ACTIVITY						
Sparkling Water (348)	5.1.3 5.1.5, 5.1.6	5.2.4 5.2.7		5.4.2 5.4.4, 5.4.5		5.6.1
Sum of the Parts (267)	5.1.3 5.1.5, 5.1.6					
Super Bowl Surge (353)	5.1.3					
The Thunderstorm (196)	5.1.3	5.2.1 5.2.2	5.3.11		5.5.1 5.5.7 5.5.8	5.6.4
Water Address (122)				5.4.2 5.4.4 5.4.5, 5.4.7		
Water Bill of Rights (403)				5.4.2		
Water Celebration (446)		5.2.3				
Water Concentration (407)	5.1.5 5.1.6					5.6.2 5.6.4
Water Crossings (421)	5.1.1 5.1.5	5.2.3				5.6.2
Water Log (19)		5.2.4				
wAteR in moTion (450)		5.2.3	5.3.6 5.3.13			5.6.1
Water Match (50)			5.3.4 5.3.5, 5.3.8			
Water Messages (454)					5.5.7	5.6.2
Water Meter (271)		5.2.1, 5.2.2 5.2.4, 5.2.5			5.5.1	
Water Models (201)	5.1.1	5.2.7 5.2.8	5.3.4 5.3.5 5.3.8	5.4.4 5.4.7	5.5.1	
Water Works (274)	5.1.3					5.6.2
Wish Book (460)	5.1.5					
Wet-Work Shuffle (360)	5.1.3 5.1.4 5.1.5					5.6.1
Wetland Soils (212)		5.2.2, 5.2.4 5.2.5, 5.2.7			5.5.1	
What's Happening? (425)		5.2.4				5.6.2
What's the Solution? (54)						5.6.4

Grade 5

Standard 1

The Nature of Science and Technology

Students work collaboratively to carry out investigations. They observe and make accurate measurements, increase their use of tools and instruments, record data in journals, and communicate results through chart, graph, written, and verbal forms. Students repeat investigations, explain inconsistencies, and design projects.

The Scientific View of the World

5.1.1 Recognize and describe that results of similar scientific investigations may turn out differently because of inconsistencies in methods, materials, and observations*.

*observation: gaining information through the use of one or more of the senses, such as sight, smell, etc.

WET Activities (page): 30, 144, 201, 242, 373, 421

Scientific Inquiry

5.1.2 Begin to evaluate the validity of claims based on the amount and quality of the evidence cited.

WET Activity (page): 289

The Scientific Enterprise

5.1.3 Explain that doing science involves many different kinds of work and engages men, women, and children of all ages and backgrounds.

WET Activities (page): 85, 93, 133, 144, 182, 186, 11, 196, 242, 260, 267, 274, 293, 322, 344, 348, 353, 360, 382

Technology and Science

5.1.4 Give examples of technology, such as telescopes, microscopes, and cameras, that enable scientists and others to observe things that are too small or too far away to be seen without them and to study the motion of objects that are moving very rapidly or are hardly moving.

WET Activities (page): 72, 293, 344, 360

5.1.5 Explain that technology extends the ability of people to make positive and/or negative changes in the world.

WET Activities (page): 254, 267, 344, 348, 360, 373, 382, 407, 421, 460

5.1.6 Explain how the solution to one problem, such as the use of pesticides in agriculture or the use of dumps for waste disposal, may create other problems.

WET Activities (page): 133, 144, 186, 219, 232, 267, 316, 322, 344, 348, 407

Standard 2

Scientific Thinking

Students use a variety of skills and techniques when attempting to answer questions and solve problems. Students describe their observations accurately and clearly using numbers, words, and sketches, and are able to communicate their thinking to others. They compare, contrast, explain, and justify both information and numerical functions.

Computation and Estimation

5.2.1 Multiply and divide whole numbers* mentally, on paper, and with a calculator.

WET Activities (page): 186, 196, 238, 271, 293, 307, 328, 344,

5.2.2 Use appropriate fractions and decimals when solving problems.

*whole number: 0,1,2,3, etc.

WET Activities (page): 30, 171, 186, 196, 212, 238, 271, 293, 307, 328, 344,

Manipulation and Observation

5.2.3 Choose appropriate common materials for making simple mechanical constructions and repairing things.

WET Activities (page): 30, 191, 242, 254, 307, 421, 442, 446, 450

5.2.4 Keep a notebook to record observations and be able to distinguish inferences* from actual observations.

WET Activities (page): 19, 25, 30, 47, 79, 133, 157, 161, 182, 186, 212, 271, 307, 316, 348, 373, 382, 425

5.2.5 Use technology, such as calculators or spreadsheets, in determining area and volume from linear dimensions. Find area*, volume*, mass*, time, and cost, and find the difference between two quantities of anything.

*inference: a train of logic based on observations, leading to an explanation

*area: a measure of the size of a two-dimensional region

*volume: a measure of the size of a three-dimensional object

mass: the amount of matter in an object

*matter: anything that has mass and takes up space

WET Activities (page): 212, 271, 293, 328

Communication Skills

5.2.6 Write instructions that others can follow in carrying out a procedure.

WET Activity (page): 43

5.2.7 Read and follow step-by-step instructions when learning new procedures.

WET Activities (page): 25, 30, 35, 43, 201, 212, 328, 348

Critical Response Skills

5.2.8 Recognize when and describe that comparisons might not be accurate because some of the conditions are not kept the same.

WET Activities (page): 25, 30, 201, 232, 382

Standard 3

The Physical Setting

Students continue to investigate changes of Earth and the sky. They explore, describe, and classify materials, motion, and energy*.*

The Earth and the Processes That Shape It

5.3.4 Investigate that when liquid water disappears it turns into a gas* (vapor) mixed into the air and can reappear as a liquid* when cooled or as a solid* if cooled below the freezing point of water.

WET Activities (page): 25, 35, 43, 47, 50, 66, 144, 161, 182, 201, 373, 392

5.3.5 Observe and explain that clouds and fog are made of tiny droplets of water.

WET Activities (page): 50, 161, 182, 201,

5.3.6 Demonstrate that things on or near Earth are pulled toward it by Earth's gravity*.

WET Activities (page): 30, 99, 157, 161, 242, 450

Matter and Energy

5.3.8 Investigate, observe, and describe that heating and cooling cause changes in the properties of materials, such as water turning into steam by boiling and water turning into ice by freezing. Notice that many kinds of changes occur faster at higher temperatures*.

WET Activities (page): 25, 35, 43, 47, 50, 66, 144, 157, 161, 182, 201, 373, 392

5.3.9 Investigate, observe, and describe that when warmer things are put with cooler ones, the warm ones lose heat* and the cool ones gain it until they are all at the same temperature. Demonstrate that a warmer object can warm a cooler one by contact or at a distance.

WET Activities (page): 66, 144, 373

5.3.10 Investigate that some materials conduct* heat much better than others, and poor conductors can reduce heat loss.

*temperature: a measure of average heat energy that can be measured by using a thermometer

*heat: a form of energy

*conduction: the movement of heat through matter

WET Activity (page): 373

Forces of Nature

5.3.11 Investigate and describe that changes in speed* or direction of motion of an object are caused by forces*. Understand that the greater the force, the greater the change in motion and the more massive an object, the less effect a given force will have.

WET Activities (page): 99, 196, 242

5.3.12 Explain that objects move at different rates, with some moving very slowly and some moving too quickly for people to see them.

WET Activity (page): 25

5.3.13 Demonstrate that Earth's gravity pulls any object toward it without touching it.

*speed: the rate per unit time at which an object moves

*force: a push or a pull that can cause a change in the motion of an object

WET Activities (page): 30, 99, 242, 450

Standard 4

The Living Environment

Students learn about an increasing variety of organisms — familiar, exotic, fossil, and microscopic. They use appropriate tools in identifying similarities and differences among these organisms. Students explore how organisms satisfy their needs in their environments.

Diversity of Life

5.4.2 Observe and describe that some living things consist of a single cell that needs food, water, air, a way to dispose of waste, and an environment in which to live.

WET Activities (page): 63, 66, 76, 99, 122, 161, 186, 238, 322, 344, 348, 382, 403

Interdependence of Life and Evolution

5.4.4 Explain that in any particular environment, some kinds of plants and animals survive well, some do not survive as well, and some cannot survive at all.

WET Activities (page): 99, 122, 174, 201, 238, 348

5.4.5 Explain how changes in an organism's habitat are sometimes beneficial and sometimes harmful.

WET Activity (page): 99, 122, 166, 316, 322, 344, 348

5.4.6 Recognize and explain that most microorganisms do not cause disease and many are beneficial.

WET Activity (page): 85

5.4.7 Explain that living things, such as plants and animals, differ in their characteristics, and that sometimes these differences can give members of these groups (plants and animals) an advantage in surviving and reproducing.

WET Activities (page): 99, 122, 201

Standard 5

The Mathematical World

Students apply mathematics in scientific contexts. They make more precise and varied measurements in gathering data. Their geometric descriptions of objects are comprehensive, and their graphing demonstrates specific connections. They identify questions that can be answered by data distribution, e.g., "Where is the middle?" and their support of claims or answers with reasons and analogies becomes important.

Numbers

5.5.1 Make precise and varied measurements and specify the appropriate units.

WET Activities (page): 30, 63, 79, 133, 186, 196, 201, 212, 271, 293, 307, 328, 373

Reasoning and Uncertainty

5.5.7 Explain that predictions can be based on what is known about the past, assuming that conditions are similar.

WET Activities (page): 133, 186, 196, 289, 293, 454

5.5.8 Realize and explain that predictions may be more accurate if they are based on large collections of objects or events.

WET Activities (page): 144, 186, 196, 293

Standard 6

Common Themes

Students work with an increasing variety of systems and begin to modify parts in systems and models and notice the changes that result.

Systems

5.6.1 Recognize and describe that systems contain objects as well as processes that interact with each other.

WET Activities (page): 99, 144, 157, 161, 232, 316, 328, 348, 360, 450

Models and Scale

5.6.2 Demonstrate how geometric figures, number sequences, graphs, diagrams, sketches, number lines, maps, and stories can be used to represent objects, events, and processes in the real world, although such representation can never be exact in every detail.

WET Activities (page): 25, 72, 144, 171, 186, 238, 274, 289, 293, 307, 382, 407, 421, 425, 454

Constancy and Change

5.6.4 Investigate, observe, and describe that things change in steady, repetitive, or irregular ways, such as toy cars continuing in the same direction and air temperature reaching a high or low value. Note that the best way to tell which kinds of changes are happening is to make a table or a graph of measurements.

WET Activities (page): 54, 79, 99, 144, 166, 171, 182, 196, 293, 316, 373, 407